

REMARKS/ARGUMENTS

Claims 1-9 are pending herein. Claims 1-9 have been amended for clarification purposes only.

Applicants appreciate the PTO's indication that claims 3 and 5 would be allowed if rewritten in independent form in compliance with §112, second paragraph. For the reasons explained below, however, original independent claim 1 is believed to be allowable over the applied prior art of record.

1. The rejection of claims 1-7 under §112, second paragraph is noted, but deemed moot in view of the rewritten claims submitted above.
2. Claims 1, 2, 4 and 6-9 were rejected under §102(b) over Suzumura et al. (U.S. 5,719,778; EP 0695983). This rejection is respectfully traversed.

Pending independent claim 1 recites, among other things, a method of heating a gas sensor including a ceramic substrate and a heater embedded in the substrate by controlling a temperature of the heater. Pending independent claim 8 recites, among other things, a gas sensor having a ceramic substrate and a heater embedded in the substrate. The applied prior art of record, discussed below, does not disclose or suggest a method for heating a gas sensor or a gas sensor in which the gas sensor includes a ceramic substrate having a heater embedded therein, as recited in pending claims 1 and 8.

Fig. 3A of Suzumura (U.S. '778 and EP '983) shows a heater control apparatus for an oxygen sensor. The oxygen sensor includes exhaust-side and atmosphere-side electrodes 23 and 24, respectively, formed on opposite sides of solid electrolyte layer 22. The solid electrolyte layer is surrounded by diffusion resistance layer 21 to thereby form a cup-shaped oxygen sensor 20. A heater 26 is positioned in an opening of the sensor main body and is located adjacent to the atmosphere-side electrode 24.

Suzumura's Fig. 3A clearly shows that heater 26 is not embedded in a substrate, as recited in pending independent claims 1 and 8. That is, it is clear that the portion of heater 26 that is positioned within sensor main body 20 is not embedded in

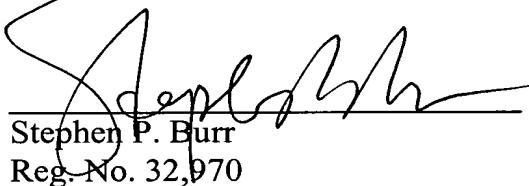
any one of the atmosphere-side electrode 24, solid electrolyte layer 22, exhaust-side electrode layer 23, or diffusion resistance layer 21. Indeed, heater 26 does not so much as even contact any of the above-mentioned structures, let alone exist in an embedded state within any of the structural elements defining sensor main body 20. As such, Suzumura does not disclose or suggest each and every feature recited in pending claims 1 and 8.

In view of all of the foregoing, reconsideration and withdrawal of the §102(b) rejection over Suzumura are respectfully requested.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,



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Date

SPB/SWC/gmh

Attachments: Appendix A - substitute specification
Appendix B - marked-up specification

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